

What Is Claimed Is:

1. A display apparatus for displaying input image data, comprising
a display generator, the display generator adapted to provide a display output
by employing image data;

a buffer coupled to the display generator, the buffer storing image data
corresponding to the image data employed by the display generator; and

a reception circuit coupled to the image buffer, the reception circuit receiving
input image data, the input image data associated with a first data update rate, the
reception circuit adapted to selectively receive image data from the input image data
at a second rate, the second rate is lower than the first rate, the reception circuit
further adapted to update the image data in the buffer with the selectively received
image data whereby the power consumption of the display device is reduced by the
selective receiving of the input image data.

2. The apparatus of Claim 1, wherein said buffer is selected from the group
consisting of an analog storage element, and digital storage element, and both
analog and digital storage elements.

3. The apparatus of Claim 2, wherein said reception circuit selectively
receives said input image data in increments of at least one frame.

4. The apparatus of Claim 3, wherein said reception circuit gates said input
image data based on occurrences of a vertical synchronization pulse.

5. The apparatus of Claim 1, wherein said reception circuit selectively
receives said input image data in increments of at least one line from a plurality of
input image data frames.

6. The apparatus of Claim 5, wherein said reception circuit further comprises
a counter for tracking which of said at least one line is to be received.

7. The apparatus of Claim 1, wherein said reception circuit selectively
receives said input image data in increments of at least one pixel cell.

8. The apparatus of Claim 7, further comprising a memory array for storing pixel cell data.

9. The apparatus of Claim 7, wherein said at least one pixel cell comprises a static RAM cell.

10. The apparatus of Claim 8, wherein said memory array further comprises an interface controller.

11. The apparatus of Claim 9, wherein said interface controller routes said input image data to memory array elements corresponding to image pixels.

12. The apparatus of Claim 1, wherein said reception circuit is adapted to alternatively receive the input image data at the first rate to provide a substantially real-time video display.

13. A display device, comprising:
an image generation module, the image generation module generating an image corresponding to image data;
a buffer, the buffer coupled to the image generation module, the buffer storing the image data; and
a sampling circuit, the sampling circuit subsampling image data by selectively receiving input image data into the buffer, whereby the subsampling of input data reduces the power consumption of the display device.

14. A low power display device for displaying input image data, comprising:
a silicon substrate;
a pixel array disposed on the substrate, the pixel array including a plurality of display pixels, the pixel array adapted to provide a display output by selectively powering each of said display pixels and by referring to image data corresponding to each of said display pixels;

a memory module, the memory module storing image data corresponding to each of said display pixels;

an interface controller, the interface controller adapted to facilitate the directing of image data corresponding to each of said display pixels to a corresponding memory location; and

a sampling circuit adapted to receive input image data, the sampling circuit selectively storing the input image data so as to sample the input image data at a reduced rate, the sampled image data provided to the driver module, whereby the driver circuit consumes less power by selectively sampling the input image data.

15. A method for reducing the power consumed by a display device, comprising:

receiving input image data into the display device, the input image data received at a first rate;

selectively storing the input image data at a second rate, the second rate is lower than the first rate, whereby the storing of the image data at the second rate consumed less power than the storing of the image data at the first rate; and

providing the selectively stored data to the display image generation portion of the display device.

16. A method for providing an image output from a display device while reducing power consumption, comprising:

providing a substrate that includes an array of pixels disposed on the substrate;

receiving input video data, the input video data provided at a first rate;

sampling the input data with a sampling interface, the sampling is at a second rate, the second rate lower than the first rate;

storing the sampled video data in a buffer, the buffer data employed to selectively power the array of pixels to deliver a video image; and

powering select pixels of the substrate, in accordance with the buffer data, to provide a video image.

17. A method for reducing power consumption in a video display device, comprising:

receiving input video data, the input video data corresponding to video image frames, the input video data provided at a first frame rate;

selectively updating a frame buffer with received input data, the selective updating facilitating a second frame rate, the second frame rate is lower than the first frame rate; and

displaying an image from the video display device by employing the data stored in the frame buffer.

18. A method for reducing power consumption in a video display device, comprising:

receiving input video data, the input video data corresponding to video image frames, each frame comprising data corresponding to a plurality of horizontal image lines, the input video data provided at a first frame rate;

selectively updating a display buffer with image line data from the received input data, the selective updating facilitated by replacing data in the display buffer with data from lines of an input frame;

storing a line update indicator, the line update indicator employed to identify lines of input frames for updating in said selective updating of the display buffer; and

displaying an image from the video display device by employing the video data stored in the display buffer.

19. The method of Claim 18, wherein the data corresponding to image frame lines are updated at the same rate for all image frame lines.

20. The method of Claim 18, wherein data for a select set of image frame lines are updated at a higher rate than data for the remaining image frame lines.

21. A method for reducing power consumption in a video display device having a memory location associated with each pixel of the display device, comprising:

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receiving input video data, the input video data corresponding to video image frames, the input video data provided at a first frame rate;

routing the input video data to memory locations of the display device by associating the input video data with pixels corresponding to the memory locations;

selectively updating the memory locations of the display device with the routed input video data; and

displaying an image from the video display device by employing the video data stored in the memory locations of the display device.

22. A video display device comprising:

a substrate;

an array of pixel cells disposed on said substrate;

means for storage of input video information, said means corresponding to said array of pixel cells;

at least one peripheral driver for addressing and providing said input video information to said array of pixel cells;

an interface for sampling said input video information, disposed on said substrate; and

means for subsampling said input video information, connected to said interface, wherein said subsampling means samples said input video information at a rate that reduces system power consumption.